Getting started with RFOptic's RFoF HF links



FOptic's High Frequency series of RFoF links

The RFoF HF modules can be controlled and configured using the RFoF configuration software. This software is available from RFOptic. It is designed to work on PC/Laptops having Windows 7, 8 or 10 operating system versions. A custom version that is compatible with Windows Xp can be made available upon request.

Safety considerations

The Transmitter uses a **Class 3B laser** source at around 1550nm. The invisible light output from the transmitter can be hazardous if viewed directly by the eye. The optical power from the laser diode may cause retinal or coronal damage. Always observe the following precautions for safe use of the transmitter:



1. Never look directly into the operating transmitter output or an output of a fiber connected to the transmitter when the distance of the output is less than 50cm from your eye.



2. Never look into the operating transmitter output or an output of a fiber connected to the transmitter using optical instruments (a microscope etc.)

Power and heat sink requirements for RFoF HF modules

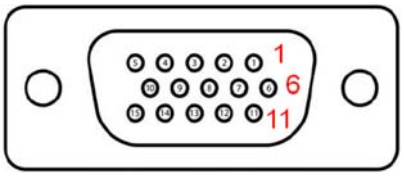
The power requirements of the RFoF HF series depend on module configuration. The modules operate from a +5V supply. Transmitters in basic configuration require 1.5A power supply minimum rating. When an optional RF amplifier is integrated within the transmitter module then the current requirement can go up to 2A.

The RFoF HF receiver modules require less than 0.1A in their basic configuration and up to 1A if an optional RF amplifier is integrated inside the module.

Due to their power consumption it is required to mount the RFoF HF Transmitter modules on a suitable heat sink to maintain resonable operating temperatures. Similarly when RF amplifiers are integrated into the Receiver it is appropriate to use a similar heat sink mounting.

Power and USB control interface for RFoF HF modules

The RFoF HF modules use a Dsub 15pin male cable to supply DC power and provide USB interface as well as optional user controls. Use #26 wires to both Vdc pins (1, 6) and to both GND pins (2, 7) to mimimize voltage drop over the power supply wires



P1 - Dsub 15pin	Pin Number
Vdc	1
GND	2
Ext LED red	3
USB D+	4
Reserved - do not connect	5
Vdc	6
GND	7
Ext LED green	8
USB D-	9
Reserved - do not connect	10
Ext Cont1 - Optional	11
Ext Cont2 - Optional	12
Ext LED blue / optional Ext Cont3	13
USB Host +5V signal	14
Digital GND	15

Panel LED indicators of the RFoF modules

Panel LED status indications for powered RFoF HF modules

- For transmitter modules, as power is first applied, the module goes through a short Laser stabilization procedure during which the panel LED blinks blue.
- The Receiver module panel LED blinks red if the optical signal received is below the preset optical alarm threshold.
- Once the laser stabilization is complete the Laser is powered automatically and the panel LED becomes green.
- If an optical fiber is connected between Tx and Rx units, the panel LEDs of both Tx and Rx are Green.
- If the transmitter optical power falls below the preset optical alarm level its panel LED will blink red.
- When the laser is turned Off after the Laser stabilization procedure the panel LED will alternate blink red/green.
- If the optical fiber is disconnected, the panel LED of the Tx is Green and the panel LED of the Rx is blinking Red.